



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/817,641	03/26/2001	Dejian Zhou	NORT0096US(13881RRUS01U)	8711

7590 11/03/2004

Dan C. Hu  
TROP, PRUNER & HU, P.C.  
Ste. 100  
8554 Katy Freeway  
Houston, TX 77024

EXAMINER

CHOW, MING

ART UNIT	PAPER NUMBER
----------	--------------

2645

DATE MAILED: 11/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Yw

## Office Action Summary

### Application No.

09/817,641

### Applicant(s)

ZHOU, DEJIAN

### Examiner

Ming Chow

### Art Unit

2645

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12 July 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-33 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

***Claim Objections***

1. Claim 8 recites "the one trunk". There is insufficient antecedent basis for this limitation in the claim.

2. Claim 9 recites "the other one". There is insufficient antecedent basis for this limitation in the claim.

***Drawings***

3. The drawings are objected to because proper legends were missing. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1, 8, 30, 31, 33 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The term “likely” is not clearly defined.
5. Claims 31, 33 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The limitations as claimed in claim 31 has been claimed in claim 1.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The following shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make

Art Unit: 2645

and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 14, 32 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The phrase “will conflict with a trunk selected by the second switch system” (line 13) is not disclosed by the specification. The claimed “a trunk selected” reads on “a trunk has been selected”. However, on section [0033], the specification disclosed “to perform a determination of whether there is likely conflict in selection of a trunk”. The specification supports a prediction of conflict if the trunk has been selected by the first queue is to be selected by the second switch.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

Art Unit: 2645

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

7. Claims 1-7, 9-15, 17-33 are rejected under 35 U.S.C. 102(e) as being anticipated by Mo (US: 6137875).

For claims 1, 4, 12, 22, 24, 25, 29, 31-33, Mo teaches on column 4 line 1-3 determining whether a trunk is available on the free list (reads on claimed "a storage element").

Mo teaches on column 2 line 60-62 administration module (claimed 'controller') determines which trunk is available.

Mo teaches on Fig. 2 when FIFO is determined to have precedence (priority), the sub-trunk group (item 202 Fig. 2) is more likely to be used by switch module 13 of Fig. 2. Therefore, switch module 11 of Fig. 2 selects another trunk from sub-trunk group (item 200 of Fig. 2).

Regarding claims 2, 15, 23, 26, Mo teach on item 204 Fig. 2 main queue where lists available trunks for the first switch. Mo teaches on item 206 Fig. 2 shadow queue lists available trunks for the second switch. There must be identifiers in the main queue and shadow queue to identify trunks.

Art Unit: 2645

Regarding claims 3, 13, 19, Mo teaches on column 3 line 44-46 and Fig. 2 both ends of a trunk group hunt an idle trunk. The FIFO mechanism reads on the claimed “least idle algorithm”. The LIFO mechanism reads on the claimed “most idle algorithm”.

Regarding claims 5, 17, 27, Mo teaches on steps 308, 316 the result of “YES” reads on claimed “select one trunk”. Mo teaches on steps 318, 310 decrement idle count (reads on claimed “remove an identifier of one trunk”).

Regarding claims 6, 7, 18, 28, Mo teaches on Fig. 4 increment free count (reads on claimed “return an identifier of a released trunk”).

Regarding claims 9, 20, Mo teaches on column 3 line 48-54 Forward Linear and Backward Linear algorithms.

Regarding claims 10, 21, Mo teaches FIFO (claimed “clockwise circular queue”) and LIFO (claimed “counter-clockwise circular queue”). A circular queue is a FIFO or a LIFO queue that is logically represented in a circular fashion.

Regarding claim 11, Mo teaches on step 316 Fig. 3. Switch 1 of Fig. 1 identifies available and unavailable trunks (reads on claimed “track trunk selections”) when trunks are used by switch 3 (claimed “second switch”) of Fig. 1 as a priority trunk group.

Art Unit: 2645

Regarding claim 14, all rejections as stated in claims 1 and 2 above apply.

Item 204 of item 51 in Fig. 2 is the claimed first queue which arranges identifiers in FIFO order. Item 206 of item 53 in Fig. 2 is the claimed second queue which arranges identifiers in LIFO order (different arrangement from the first queue).

Mo teaches on step 308 Fig. 3, when the outcome of step 308 is "NO" the trunks have all been selected by switch module 11 and it reads on claimed "selecting a first trunk from available trunks in the first queue". Also, step 308 of Fig. 3 uses the second queue (LIFO) to predict if the first trunk selected from the first queue (FIFO; item 204 of item 51) will conflict with a trunk to be selected by the second queue (switch system). When the outcome of step 308 is "NO", it predicts the trunk that has been selected by switch 11 will have a conflict with a trunk in the second queue (LIFO; item 206 of item 53 in Fig. 2) if selected by switch 13.

Regarding claim 30, all rejections as stated in claims 1 and 2 above apply.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.



Art Unit: 2645

8. Claims 8, 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mo as applied to claim 7 above, and in view of Simcoe et al (US: 5313641).

Mo failed to teach “the controller adapted to further.....the second switch”. However, Simcoe et al teach on column 5 line 67-68 a queuing system for trunk selections. Simcoe et al teach on column 10 line 54 to column 11 line 4 comparing the entries between current queue (claimed “main queue”) against the next available queue (claimed “shadow queue”).

It would have been obvious to one skilled at the time the invention was made to modify Mo to have the “the controller adapted to further.....the second switch” as taught by Simcoe et al such that the modified system of Mo would be able to support the comparing between the main queue and shadow queue to the system users.

### ***Response to Arguments***

9. Applicant's arguments filed on 7/12/04 have been fully considered but they are not persuasive.

- i) Applicant argues, on page 8, regarding claim objections to claim 8. Claim 8 recites “the one trunk from a list entry of the main queue”. The trunk cannot be selected from a queue. From the context of claimed limitations, see claim 4, only trunk identifiers are stored in the queue and therefore only trunk identifiers can be selected from the queue.

Art Unit: 2645

- ii) Applicant argues, on page 8, regarding claim objections to claim 9. Claim 9 recites “one of an ASEQ algorithm and DESQ algorithm *that is a counterpart of the other one of the ASEQ algorithm and DSEQ algorithm*”. The “one of an ASEQ algorithm and DESQ algorithm” *is referred to* “the other one of the ASEQ algorithm and DSEQ algorithm”. The “the other one of the ASEQ algorithm and DSEQ algorithm” must be recited first in order to identify “one of an ASEQ algorithm and DESQ algorithm”. For example, a claimed limitation - object A is a counterpart of object B. The object B must be recited first in order to identify the object A.
- iii) Applicant argues, on page 8, regarding objections to drawing. There is no requirements for the Examiner to list all detail missing legends. However, in order to help the Applicant better understanding the objection, the Examiner hereby provides an example of the missing legend as follow. The items 20, 22, 48, 32 of Fig. 1 do not have any legend indicating the particular items. Also, Applicant is strongly suggested and recommended to call the Examiner for an entitled interview to clarify any question when it arises.
- iv) Applicant argues, on page 9, regarding 35 USC 112 rejections. The 35 USC 112 rejection states “The specification shall conclude with one or more claims **particularly pointing out** and **distinctly claiming the subject matter** which the applicant regards as his invention”. The claimed “likely” does not particularly point out nor distinctly claim the subject matter. It is unclear to what extent is considered as “likely”. Applicant argues the term “likely” refers to the “predictive nature”. However, all trunks

Art Unit: 2645

that are installed by a communication service provider can be predicted to be selected at one point of time.

- v) Applicant argues, on page 9, regarding claim 1 about the “if” conditions. In addition to the responses as stated in item (iv) above, as stated in rejections to claim 1 above, when FIFO has the priority the sub-trunk group (item 202 Fig. 2) is more likely to be used (the claimed “if” condition) by switch module 13 of Fig. 2. Therefore, the “if” condition exists.

### *Conclusion*

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

Art Unit: 2645

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this application and office action should be directed to the examiner Ming Chow whose telephone number is (703) 305-4817. The examiner can normally be reached on Monday through Friday from 8:30 am to 5 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Fan Tsang, can be reached on (703) 305-4895. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Customer Service whose telephone number is (703) 306-0377. Any response to this action should be mailed to:

**Commissioner of Patents and Trademarks**

**Washington, D.C. 20231**


**Or faxed to Central FAX Number 703-872-9306.**

Patent Examiner

Art Unit 2645

Ming Chow



 10/28/01  
ROLAND G. FOSTER  
PRIMARY PATENT EXAMINER